Amendments to the Specification

Please amend paragraphs [00069] to [00071] on pages 23 and 24, as follows:

[00069] For a one-dimensional OPSD, since the detector is uniform along its length, the total dark current for the device, I_D, splits equally to either end of the OPSD. The currents I_1 and I_2 observed at the first and second electrode contacts, respectively, are

$$I_1 = {}^{I_D}\!/_2 + I_{ph}\left(\frac{R_2}{R_1 + R_{2[[3]]}}\right) and\ I_2 = {}^{I_D}\!/_2 + I_{ph}\left(\frac{R_1}{R_1 + R_2}\right)$$

where R_1 and R_2 are the linear resistances of the ITO strip from the incident light beam position to the external anode contacts (FIG. 1). From the current I_1 and I_2 at either side of the device, the position, $[[O_x]]$ $\underline{\Delta_x}$, of the incident beam from the center of the OPSD is $\Delta x = \frac{[[1]]I_1 - I_2}{2(I_1 + I_2)} L$, where L is the total device length, if $I_D << I_{ph}$. The device can be operated in either the "photovoltaic mode" (0 V applied between anode and cathode) or in the reverse biased "photodetector mode." Results for both modes of operation are reported in the Example hereinbelow.

[00070] For an OPSD having three electrode contacts, the analysis is similar. The total dark current will spit evenly into the different contact points, and the currents observed at the three electrodes can be used to triangulate and find the position, $[[O_x]]$ $\underline{\Delta_x}$, of the incident beam. For an OPSD, the current from the four electrodes can be used to determine the position in ~~both~~ two dimensions.

[00071] An OPSD was fabricated on precleaned glass substrates commercially precoated with a 1500 ´-thick ITO anode obtained from Applied Films Corporation in Longmont Colorado. (P.E. Burrows, Z. Shen, V. Bulovic, D.M. McCarty, S. R. Forrest, J. A. Cronin, and M.E. Thompson, "Relationship between electroluminescence and current transport in organic hetero-junction light-emitting devices, "J. Appl. Phys., vol. 79, no. 10, pp. 7991-8006, May 1996.) A single photolithographic step was used to pattern and etch the ITO (in 5% HNO_3: 45% HCl: 50% H_2O by volume at 70° C for 5 min) into a 3 cm x 1 mm line. The ITO was then spin-coated with a 300 ´-thick film of 3, 4-polyethylenedioxythiophene:polystyrenesulfonate (PEDOT:PSS), followed by drying at 120° C for 15 min in vacuum. The PEDOT:PSS layer improves current injection into the donor-like copper phthalocyanine (CuPc) layer by lowering the Fermilevel, and hence reducing the energy barrier to holes by 0.5 eV with the highest occupied molecular orbital of CuPc. (P. Peumans

et al. Appl. Phys. Lett., vol. 79, no. 1, pp. 126). The polymer also serves to planarize the ITO, thereby preventing shorts through the thin donor and acceptor layers; a concern for large area devices. Subsequently, the small molecular weight films comprising the organic double heterostructure were deposited by thermal evaporation at room temperature in high vacuum (~$1x10^{-6}$ Torr) in the following order: a 500 ´ -thick film of the preferentially hole transporting CuPc, followed by 500 ´ of the electron transporting, acceptor-like 3, 4, 9, 10-perylenetetracarboxylic bis-benzimidazole (PTCBI). Next, a 100 ´ -thick film of bathocuproine (BCP) was deposited. The BCP acts as an exciton-blocking layer, preventing recombination at the cathode/organic interface while also decreasing dark current and preventing damage to the PTCBI layer during metal deposition. (P. Peumans, V. Bulovic, and S. R. Forrest, "Efficient, high-bandwidth organic multilayer photodetectors," Appl. Phys. Lett., vol. 76, no. 26, pp. 3855-3857, June 2000.) Finally, an 800 ´ -thick Ag layer was deposited through a shadow mask as the device cathode.